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NAVY- NORTHROP GRUMMAN/ BETHPAGE, NY -
Background of Contamination, Cleanup Approach and Progress

SITE HISTORY:

Northrop Grumman Corporation (formerly Grumman Aerospace) was established in the early 1930s, and Naval Weapons Industrial Reserve Plant -Bethpage was established as a Government Owned, Contractor Operated (GOCO) facility in 1940. Activities conducted at the facility included engineering, administrative, research and development, and testing operations, as well as manufacturing operations for the Navy and the National Aeronautics and Space Administration (NASA).

The facility also had an active airfield. Both Northrop Grumman and the Naval Weapons Industrial Reserve Plant had numerous industrial groundwater supply wells and recharge basins. The manufacturing portion of the Northrop Grumman and the complete Naval Weapons Industrial Reserve Plant facility are now closed.

CHEMICALS MANAGED:

Volatile organic compounds (VOCs), mainly trichloroethylene (TCE), tetrachlorethylene (PCE), dichloroethylene and vinyl chloride, and chromium contamination at the Northrop Grumman facility entered the groundwater through various source areas. These include recharge basins, sumps, dry wells, spill areas and former hazardous waste storage areas (prior to promulgation of RCRA regulations for safe handling) at both the Grumman facility and the adjacent Hooker/RUCO EPA Superfund site.

GROUNDWATER CONTAMINATION HISTORY:

- 1976 - VOCs were found in water pumped from some of the production wells, and Northrop Grumman began to sparge the recharge basins to remove VOC contamination.
- 1986 - Nassau County Health Dept. (in conjunction with USGS) began an investigation of the groundwater resources in the vicinity of the Grumman plant. During this study, a groundwater plume of over 200 acres and at a depth of 700

feet was studied. This was found to be co-mingled with the plume at the adjacent Hooker-RUCO site.

- Late 1980s - Leaking 10,000 gallon TCE tank was discovered at Grumman;
- 1991- Navy property - Source was found to be the drum marshalling area, which was an outdoor area where drums were stored.
- 1992 to 1993 – Navy property - Additional contamination found at Plant 3 area.

- 2003 – Additional investigations with regard to Bethpage Park identified it as a source of off-site groundwater contamination (volatile organic compounds). Although the on-site source has since been contained, investigations continue to further define the extent of off-site contamination and to identify hotspots.

CLEANUP APPROACH and PROGRESS:

1990 – Grumman signed a Consent Order with NYSDEC, Division of Environmental Remediation (DER), agreeing to conduct a RI/FS at the Grumman facility,

1994- Grumman completed the RI/FS. Two on-site areas were identified: (1) PCE release at Plant 15 (remediated in 1996 via soil vapor extraction); (2) TCE storage tank release (remediated via soil vapor extraction)

1995 – NYSDEC issued separate Records of Decisions (RODs) for the Grumman and Navy on-site properties. (Both RODs were referred to as OU-1 (operable unit 1). Both RODs covered source removal. Grumman's ROD covered soil vapor extraction at the Grumman property, and the Navy's ROD covered soil remediation for several on-site areas of the Navy portion of the property.

1996 - Remedial work for Site 2 and site 3 of the Navy's OU-1 were completed. A Soil Vapor Extraction System which began at Site 1 operated for 5 years, was turned off and eventually dismantled once remedial goals were met..

1998 - Northrop-Grumman began operating its on-site containment system at the southern boundary of its property.

2000- NYSDEC conckudes the OU 2 Remedial Investigation/ Feasibility Study (RI/FS) process.

2001 – NYSDEC (DER) issued the Record of Decision for OU-2. This ROD called for the continuation of the OU1 corrective measures, continuation of the VOC removal at

affected off-site public water supply wells, vinyl chloride treatment, off-site hotspot treatment for VOC concentrations exceeding 1 ppm (GM-38 hotspot), and continuation of a non-detect policy for affected public water supplies. The ROD also called for a water supply protection plan to give forewarning to municipalities downgradient of the plume, and to implement well-head treatment, if necessary.

2002- Navy begins the offsite pre-design field work that includes numerous vertical profile borings in anticipation of the installation of groundwater, outpost monitoring wells and the GM 38 Area hotspot remedial system. This process continues to the present time, as the Navy continues to install and monitor vertical profile borings and monitoring wells to track the path of the off-site contaminated plume.

GM-38 hotspot:

2004- The Navy began the GM 38 Area Design process.

2008- After resolving 3 years of access issues with the Town of Oyster Bay, NAVFAC begins construction of the Offsite GM 38 Area hotspot remediation.

2009- The GM 38 area hotspot containment/ remediation system began operating.

Bethpage Park:

2002- Northop Grumman identified PCB and chromium (Cr) issues in the Bethpage Community Park and public meetings lead to the Town of Oyster Bay closing the Park

2003 – Bethpage Park identified as a source of off-site groundwater contamination (VOCs).

2006 - Town of Oyster Bay and Northrop Grumman entered into Interim Remedial Measure Order to investigate and remediate a 7 acre portion of the Bethpage Community Park, and the Town of Oyster Bay begins the IRM remedial Action.

2006 - 175,000 cubic yards of contaminated soil were removed from Bethpage Park as an interim remedial action for source removal;

2005 to 2006 - Soil Vapor Investigation off-site of Bethpage Park- Results did not indicate soil vapor intrusion into homes at the south of the Park. Monitoring of wells in street easements continues.

2009 - Groundwater Interim Remedial Measure went on-line (4 wells installed at southern boundary of Bethpage Park) to contain remaining source groundwater before it spreads off-site. VOCs are treated via air stripping.

2010 - Groundwater Remedial Investigation Report and Feasibility Study were submitted to NYSDEC for the contamination allegedly emanating from Bethpage Park (OU-3).

Soil Vapor Intrusion - East of Navy Property:

2008 - Navy began the Vapor Intrusion investigation east of Plant 3, and installed sub-slab depressurization (SSD) systems and Air purifying units in homes immediately adjacent to Site 1 (Former Drum Marshalling Area). Air Purifying Units (APUs) were installed on thirteen homes and sub-slab depressurization systems (SSDs) were installed on six of those homes.

- 2011 – Vapor Intrusion Remediation at homes is completed, and the Navy submitted a design for expansion of the SVE system as well.

RCRA REGULATORY INVOLVEMENT:

- November 1980 – The first Part A application was submitted for interim status to continue operating a hazardous waste container storage area.
- January 1984- Initial RCRA permit (Part B) was issued by EPA for final operating status. This permit did not have a module for RCRA corrective action cleanup because the corrective action requirements were not yet in effect.
- March 1992 – Both EPA and NYSDEC issued permits in March 1992 requiring corrective action for site cleanups. NYSDEC's permit also contained a module for operation of the container storage area. EPA had issued its permit in 1992 because NYSDEC did not yet have federal authorization corrective action. The EPA corrective action permit expired in 1997, and was not renewed since NYSDEC's corrective action program had become authorized by that time.
- October 1997 – Container Storage Area (RCRA regulated unit) officially closed. Closure certification received for this clean closed unit.
- July 2007- Corrective Action Only permit renewal was issued by NYSDEC.